EPA Region 8 Scoping Comments - Oil and Gas Resource Management Plan (RMP) Amendment and Montana Statewide EIS

NEPA Process Issues

There are many common issues between the States that need interstate coordination. Please refer to similar comments provided by EPA for NEPA scoping on: 1) Wyoming BLM Powder River Coal Bed Methane EIS, dated August 10, 2000, and 2) Wyoming BLM Buffalo and Platte River RMP Amendment and Powder River Oil and Gas EIS, dated January 10, 2001, copies enclosed.

Tribal coordination

If appropriate and concurred on by the Tribes, this NEPA process could include Indian lands as part of this EIS since would simplify and expedite future NEPA compliance documents for the Tribes as they could be tiered from this programmatic EIS. This might be particularly relevant in developing the geographic and analysis scope for this EIS, in defining the Reasonably Foreseeable Development scenario, and in the possible development of CBM-specific lease stipulations for consistency or minimizing potential conflict across these Tribal and State boundaries.

Meeting all applicable water quality standards may include different or additional water quality standards on Tribal land. Currently EPA is processing a Clean Water Act application for "treatment as a state" (TAS) from the Crow Tribe. The Crow Tribe submitted its TAS application in June, 1999. The Northern Cheyenne submitted a draft TAS application to EPA in January, 2001. We encourage the lead agencies to discuss with the Tribes the schedule and implications of these CWA applications.

Powder River and Billings Resource Management Plans (RMP)

BLM acknowledges that projected development for coal bed methane was not anticipated in the original Powder River or Billings RMPs and subsequent amendments. As planned, these RMPs will be updated to include a general analysis of at least 10 years of reasonable foreseeable development (RFD) as projected by the producers. The RMP is the best place to identify general production methods, including well spacing. It is also appropriate that the RMP evaluate a unitized approach to development to address drainage as well as determine the broader environmental impacts.

Since BLM has stated that the RMP will be updated based on this EIS process, the document should be clear as to what information is updating the RMP. EPA suggests that BLM separate the information that will be used to amend the RMP into a specific chapter or attachment so that

the public can easily understand the process and it's implications. This goes beyond simply stating that the EIS is an amendment to the RMP.

Reasonable Foreseeable Development

The reasonable foreseeable development (RFD) has a large impact on the NEPA analysis for CBM production. Projections could vary for the number of coal bed methane (CBM) wells to be drilled in the project area from approximately 10,000 wells within the Powder River Basin in Montana to as-yet-undetermined additional wells in the entire state. Our concern is that BLM is only proposing to analyze the RFD for 10 years of development. This approach will segment the impacts by only looking at the development for the next 10 years. Reasonable forecasting is implicit in NEPA and federal agencies should attempt to predict the environmental effects before they are fully known; unless obtaining such information is itself unreasonable. (See, for example, 481 F.2d 1079 D.C. Cir. 1073.) BLM has estimated CBM in Wyoming for a 20-year period. The projections for production in at least some of the areas of the Powder River Basin in Wyoming have been estimated by BLM for the year 2020 as identified in "Powder River Basin Oil and Gas EIS Coal Bed Methane Activity Breakdown."

We recommend that BLM and the State consider a "full field development" option for RFD by overlaying the coal resources with the proposed maximum density criteria consistent with the well spacing requirements of the Montana Oil and Gas Board. In areas of the state other than the Powder River Basin, an RFD proposal from producers is not yet available. A full field development RFD for these areas may be appropriate in order to meet the provisions of 40 CFR 1502.22 regarding incomplete or unavailable information.

The RFD should cover full field development of the resource since BLM has already leased most of the resource in the Powder River and Billing RMP areas. Although water production from full field development will not occur simultaneously from the total projected well numbers, there are some impacts which are cumulatively significant. For example, the surface disturbance impacts remain for a period longer than 10 years if the wells are not plugged and abandoned and surface reclamation of roads is not carried out immediately when production has fallen **off and a field** is shut in. Similarly, lowered ground water potentiometric surfaces for the coal bed aquifer will persist for years after water production begins to decline or production ceases. Another example may be the persistence of soil dispersion affects for areas irrigated with produced waters with high Sodium Adsorption Ratios (SAR). Soil dispersion and subsequently hard pan appearance could be a delayed response not evidenced in the irrigated soils for a decade or more after irrigated with high SAR. For these reasons, impacts that will extend beyond 10 years need to be evaluated for the full amount of projected development. The projected development should be based on how the resource mineral will be extracted and not simply on the number of wells projected by the producers over the next 10 years.

Project Scope vs. Analysis Scope

For this comprehensive EIS, the full scope of the project area of methane development in the Powder River Basin geographically extends into Wyoming where methane production is located just south of the Montana border on the Tongue, Powder and Little Powder River watersheds. Because the methane play in Wyoming is currently occurring at a much faster rate and Wyoming is approving well permits at the rate of approximately 100 - 200 per month, this EIS should analyze the impact from full field development across these State lines. We understand that Wyoming BLM is now developing an RFD covering full field development in the Powder River Basin CBM EIS. (See BLM's Wyodak Final EIS, and Notices of Intent for preparation of EISs on the Wyoming Powder River Basin Coal Bed Methane EIS and Wyoming BLM Buffalo and Platte River RMP Amendment and Powder River Oil and Gas EIS.) This EIS in Montana should identify the process for coordinating these joint efforts by the BLM Field Offices in Wyoming and Montana to identify impacts within the Powder River Basin that go beyond state lines.
The scope of analysis area needs to extend beyond the project area. BLM is responsible for making sure that downstream standards that may extend beyond the project area are met. Specifically, the BLM regulations at 43 CFR Section 2920.7(b) (3) and 43 CFR 3162.5-1 assure compliance with Federal or state water quality standards and a preference for the produced water to be disposed of by injection into the subsurface to maintain these standards. If the intended disposal method in these watershed is surface water discharge, then BLM should analyze the downstream impacts and not depend solely on anticipated state permits to reach a conclusion of no significant impacts.

Information from the Powder River Basin in Wyoming should be used to evaluate the potential for development and the associated impacts that are connected with impacts in Montana. Other inter-state coordination efforts may also impact the viability of alternatives that rely on surface water discharge for produced water in the EIS. They include the waste load allocation and "Total Maximum Daily Load" (TMDL) determinations between these States and between these States and these Tribes. We recommend that this EIS evaluate impacts and mitigation possibilities based on the stream assimilative capacities and include any waste load allocation determinations within the affected watersheds. This approach would cross jurisdictions with state, tribal, and federal authorities.

Because of the cumulative impacts from Wyoming CBM produced water discharges upon these streams, EPA suggests that the analysis scope for this EIS be based on a watershed approach. BLM may want to consider having the Miles City BLM office manage the Tongue River watershed analysis including the Wyoming portion of that drainage, while the Wyoming Powder River Basin CBM EIS by the Buffalo BLM office would focus on the watershed analysis for the Powder River, Little Powder River, and Belle Fouche River watersheds.

Scope of the Proposed Alternatives and Mitigation

The EIS should be comprehensive in analysis of alternatives in order to meet the CEQ requirements to "sharply define the issues and provide a clear basis for choice among options by the decision maker and the public." (See 40 CFR1502.14) The EIS should not exclusively use the number of wells as a comparison measure for the different alternatives. EIS alternatives should be based on an adequate range so they sharply define differential levels of impacts to natural resources. EPA recommends that alternatives be based on different levels of mitigation as well as different levels of development. This approach allows co-lead agencies to identify all realistic alternatives that fully develop the CBM mineral resource with various amounts of impacts to natural resources.

An EIS or RMP amendment with alternatives that do not incorporate the resolution concerning surface water discharge could require future modification of BLM's and/or Montana's preferred alternative. Resolutions between the States should be thoroughly incorporated into any alternatives and decisions. However, neither the State of Wyoming or either Tribe are cooperating agencies at this point. Therefore a specific process of incorporating the interstate and State/Tribal resolution of differing water quality protection approaches should be considered that provides for appropriate public participation at an early stage and meets the requirements found at 40 CFR 1505.1(e). This part of the CEQ NEPA Guidance refers to circumstances when another decision document accompanies the relevant environmental documents to the decision-maker, agencies are encouraged to make available to the public, before the decision is made, any part of that other document that relates to the comparison of alternatives.

One important purpose of the EIS is to identify all significant impacts that will result from the action in the future and how they will be monitored and mitigated. Post-project monitoring is necessary and should be required to determine if impact projections are accurate. However, a future process for monitoring should not be a substitute for gathering baseline information and making predictions through modeling or using professional expertise in the EIS based on sound professional experience.

For example, allowing surface discharges up to the point of impairment of water quality standards, unacceptable erosion, or flooding and sedimentation is not consistent with the intent of NEPA. NEPA requires identification of potential impacts to natural resources to be prospective beyond a determination of compliance with a discharge permit. Future impacts should be anticipated in a water management plan and mitigation that would avoid these impacts should be in place when the ROD is signed.

Also, if modeling shows that only minimal amounts of produced water can be discharged to the surface before significant impacts or an in-stream water quality standard violation would be observed, it makes sense to identify that problem up front and correct it with appropriate mitigation such as subsurface injection. This will avoid forcing the operator to shut down during production, to assess and implement mitigation measures or alternative disposal methods.

There may be significant impacts related to constructing oil and gas production infrastructure due to the "boom and bust" nature of the coal-bed methane development. Therefore we suggest that the range of alternatives include a phased development alternative. Just as determining where oil and gas development is appropriate, determining when development is appropriate is also a consideration of the RMP. An alternative that incorporates a phased development of coal-bed methane could help reduce the significance of impacts by spreading them out over a period of time. Preparing infrastructure for peak production during a boom results in environmental impacts that could have been minimized through a planned or phased approach to development. For example, a phased approach would reduce impacts from larger volumes of surface water discharges that would be encountered if drilling and production are allowed to proceed without timing restrictions. In addition, completed coal-bed methane wells venting gas are wasting resources when there is no available pipeline or pipeline capacity to transport the product.

Leasing Decisions and Significant Impacts

The previous RMP for the Miles City Field Office opened a majority of the area to oil and gas development for leasing and most of the public resource has subsequently been leased. It is unclear whether the scope of the these RMP Amendments will include revisions to these previous leases or possibly adding CBM-specific stipulations to these existing leases. We encourage BLM to address two issues associated with this process: 1) determine areas where oil and gas development can not avoid creating significant environmental impacts and should be closed to leasing; and 2) specifically identify areas that require lease stipulations in order to reduce environmental impacts to an acceptable level.

Surface Disturbance Impacts - Wildlife and Roadless Areas

Including travel management planning in the Resource Management Plan would also help minimize surface impacts. Oil and gas production relies on roads to drill and service wells during production. Projections anticipate up to 10,000 oil and gas production wells in the Montana portion of the Powder River Basin. Although all wells will not be in production simultaneously, this level of development over time will have significant surface disturbance impacts without mitigation or planning incorporated into the EIS and RMP. For example, there are areas within these watersheds that are roadless or at least currently have minimal habitat fragmentation. Part of the management plan should address alternatives that will reduce wildlife habitat fragmentation. Alternatives should include mitigation that will minimize road construction and require reclamation of necessary roads after wells have been abandoned.

Connected Actions

Additional gas pipeline capacity in the Powder River Basin will certainly encourage additional CBM wells to be built to carry the product to markets. In fact it is the practice of this industry thus far to first make their capitol investment in the pipeline and then follow that investment with exploration and later production. Although the specific markets or pipeline routes may not be

known, there are aspects of gas transportation that can be anticipated such as compression facilities. These connected actions and the possibly concurrent NEPA analysis that might be undertaken by the Federal Energy Regulatory Commission (FERC) need to be thoroughly addressed in the EIS and incorporated into the reasonable foreseeable development scenario.

Public Participation

In addition to the NEPA process for public participation, Montana with its authorized NPDES program provides for and encourages public participation on certain actions. Any new standard such as effluent limitations and BPJ determinations as well as proposed NPDES permits include certain public participation requirements consistent with as 40 CFR Part 25. In addition to these requirements, there are other statutory and regulatory requirements designed to encourage public participation in the NPDES permitting process. For example, Section 4020) of the Clean Water Act requires that copies of all permit applications and permits be made available to the public. In addition, 40 CFR Section 123.30 specifically prohibits these states from imposing restrictive standing requirements upon members of the public who may wish to challenge those permits in court. There is also a requirement in 40 CFR Section 130.7(c)(1)(ii) for states to allow for public review of total maximum daily load (TMDL) calculations as set forth in the state Continuing Planning Processes. In its direct implementation role on Indian lands, EPA will be responsible for implementing these requirements as well. We hope that EPA and Montana will undertake a joint public participation plan for our combined CWA activities.

Air Quality Impacts

For the far-field impacts to Class I areas east of the Powder River Basin, a reasonably current air emissions inventory will be required. The air emissions inventory should include not only the project related emissions, but also all air emissions resulting from deep well oil and gas development, coal mining and train transportation in the Powder River and Tongue River Basins. These air emissions will need to reflect those that are reasonably expected to occur during the life of the proposed project.

Mitigation of air quality impacts should be analyzed even if air pollution controls are outside the jurisdiction of the BLM. This analysis of both the improvements in air quality and their associated costs will allow the public and decision-maker to have the necessary information with which to make comments and to make a decision as to what BLM would like to occur with the federal minerals.

EIS Cumulative Effects Analysis Issues

EPA suggest the major issues, environmental receptors and mitigation be part of the EIS analysis for direct, indirect and cumulative impacts. See particularly CEQ Guidance "Considering Cumulative Effects Under the National Environmental Policy Act", January 1977 and the applicable regulations at 40 CFR 1508.7.

The definition of cumulative impacts from these regulations states:

> "Cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions."

The different categories presented under each issue below may not be a complete list. For example, there may be additional mitigation that is identified as BLM and Montana work through the process. In addition, it may become apparent during the EIS analysis that the issue identified below does not present a significant impact.

Issue - Changes to surface water quality

Receptors -	Surface water ecology(environmental) Terrestrial ecology (environmental) Agriculture (socio-economic)
Causes - -	Water quality changes due CBM production discharges
Effects -	Violation of in-stream water quality standards, changes to aquatic populations and types of species, changes to types of terrestrial species, increase in sodium adsorption ratio in stream leading to a decrease in alfalfa or other irrigated crop yields
Mitigation -	Water management requirements that would involve discharge treatment, re-injecting production water for disposal or as aquifer recharge, evaporation ponds, pipe water to alternative discharge point, alluvial aquifer recharge projects, determining a waste load allocation may become necessary to continue to allow discharges of production water Equity of mitigation is another consideration; since mitigation should not be solely placed on the later or last producers nor solely on one governmental entity versus another.
Geographic Scope -	Defined by downstream changes to water quality
Temporal Scope -	As long as discharges occur unless soil dispersion persists or is not evident for a longer time period.

Issue - Ground water depletion

Receptors -	Powder River Basin coal bed aquifers (health) (socio-economic)
Causes -	Lower potentiometric surface due to coal bed methane production
Effects -	Loss of drinking water wells, loss of irrigation and stock watering wells
Mitigation -	Re-inject into coal bed aquifers, compensation to impacted ranchers or Tribal governments

Geographic Scope - Basin wide
Temporal Scope - Concurrent with lower potentiometric surfaces due to CBM production

Issue - Changes to stream channel hydro-morphology

Receptors -	Surface water ecology (environmental) Terrestrial ecology (environmental) Agriculture (socio-economic)
Effects -	Erosion, flooding, sedimentation, ecological changes from displacement of species and introduction of new species,
Causes -	Additional stream flow volume from coal bed methane production surface water discharges increases the sediment carrying capacity of the system Changes from ephemeral to perennial flow at the beginning of production Changes from perennial to ephemeral flow at the end of production
Mitigation -	Water management techniques that include re-injecting production water for disposal or as aquifer recharge, evaporation ponds, pipe water to alternative discharge points, alluvial aquifer recharge projects
Geographic Scope -	Limited to areas with changes to flow regime and erosion impacts
Temporal Scope -	Could be permanent without restoration

Issue - Methane migration to other aquifers and the surface

Receptors -	Ranchers (safety/health) (socio-economic)
Effects -	Safety hazard if gas migrates into an occupied structure (residence or ranch out buildings), additional cost to replace affected agricultural or drinking water wells
Cause -	Once sufficient head is removed from the production zone, potentiometric surface methane could migrate to drinking water aquifers above the coal bed methane production zone through natural secondary geologic structures such as faults and fractures or through improperly completed or plugged and abandoned wells in addition to geophysical test holes.
Mitigation -	Hazard assessment for potential gas migration through well record reviews and delineating geologic features that would increase potential for gas migration

Geographic Scope - Basin wide but could be limited to areas determined to have potential for methane migration
Temporal Scope - Could extend beyond production period as long as coal beds are depressurized enough to allow methane to be minimally produced

Issue - Venting methane during well testing and exploration

Receptors -	terrestrial ecology (environmental) global warming (environmental) (socio-economic) (health)

Effects -	Changes to terrestrial populations near the well, global warming
Cause -	Methane is vented to the atmosphere during well testing when wells are not connected to pipelines.
Mitigation -	Determine other methods for testing wells without venting to the atmosphere, shut in test wells after testing is completed until pipeline is connected
Geographic Scope -	Ignoring global warming, impacts would be proximate to the well
Temporal Scope -	Periods of time when the gas production valve is open and the well is not connected to a pipeline

Issue - Surface Impacts

Receptors -	Terrestrial ecology (environmental)
Effects -	Loss of habitat acreage, habitat fragmentation
Causes -	Surface disturbance from additional roads and utilities build out to service coal bed methane production, increased human presence
Mitigation -	Drill multiple wells from one pad, require reclamation after production is completed including roads, reduce utility disturbance with local electric power generation, remove existing roads in areas where no production is likely especially in unique habitat areas on federal or Tribal lands
Geographic Scope -	Basin wide in production areas.
Temporal Scope -	As long as surface disturbance persists

Issue - Protection of Endangered Species and Species of Concern

Receptors -	Black-footed ferret, Bald Eagle and Ladies Tresses Orchid (listed) Mountain Plover (proposed for listing) Sturgeon Chub and Black-tailed prairie dog (candidate for listing) Sage Grouse (species of concern)
Effects -	Species extinction
Causes -	Loss of habitat or indirect changes to ecosystem changes species populations
Mitigation -	Inventory critical habitat areas, reduce or eliminate surface disturbance in critical habitat area, zero surface water discharge if activity could impact critical habitat or known populations, restore lost critical habitat or populations in other locations on federal lands
Geographic Scope -	Basin wide
Temporal Scope -	As long production impacts persist

Issue - Air Quality impacts

Receptors -	Class I Airsheds (environmental) (socio-economic) (health)
Effects -	Reduced visibility in valuable natural view-sheds with special focus on the

	Northern Cheyenne Class 1 air quality area
Causes -	Emissions from gas compression facilities and fugitive dust from production activity
Mitigation -	Using low emission power supplies, local methane electricity generation to develop electric compression capability
Geographic Scope -	Northern Cheyenne Reservation Crow Reservation National Parks in South Dakota Cloud Peak Wilderness Area
Temporal Scope -	During CBM production